

Gaskill 2005). Density thresholds appear to be between 2 and 5 scallops/m<sup>2</sup>. Sites where scallop densities were greater than 3 scallops per square meter experienced almost 100% mortality.

Beginning in August 2002, the DMF opened areas around Harkers Island where high ray predation occurred in order to increase harvest of those scallops likely to suffer heavy mortality. The first year of harvest during this summer season yielded 3,446 pounds of scallop meat. However, no landings were made during subsequent years and no summer season opening occurred in 2005.

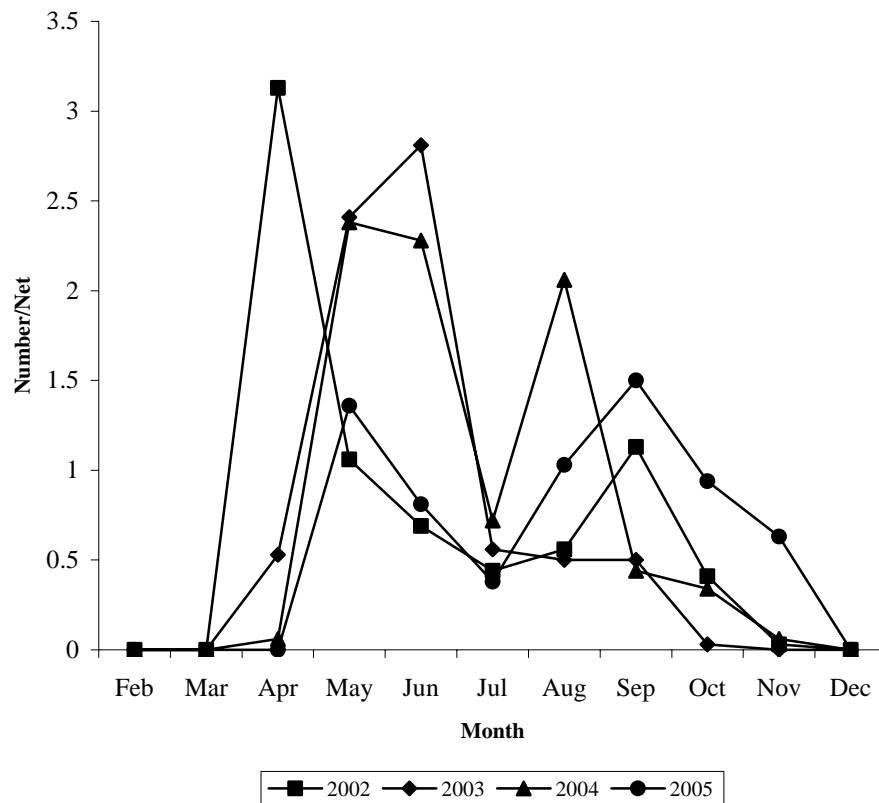


Figure 9.10. Monthly CPUE (number/net) of cownose rays in Pamlico Sound independent gill net survey. DMF biological sampling.

### III. DISCUSSION

There has been a growing concern in North Carolina about predation on bay scallops by cownose rays. This situation can be compared to problems experienced in Chesapeake Bay with ray predation on oyster beds. Some scientists and fishermen believe that the number of cownose rays is rising. Indices of long-term abundances suggest that cownose rays are increasing in number as abundances of large sharks (predators of cownose rays) decrease (R. Meyers, Dalhousie University, Canada, personal communication 2006). However, other scientists believe that cownose rays have always been abundant. There are no quantitative data for abundance of cownose rays in Chesapeake Bay; however, the species has been abundant in the Bay since the 1970s as